

### Remarks

Entry of the amendments, reconsideration of the application, as amended, and allowance of all pending claims are respectfully requested. Applicants respectfully submit that this supplemental amendment supersedes the earlier filed amendment dated June 18, 2007. Claims 8-20 remain pending.

Applicants have cancelled claims 1-7, without prejudice, from further consideration at this time. Applicants are not conceding in this application that these claims are not patentable over the art cited by the Examiner. Further, Applicants respectfully reserve the right to pursue these and other claims in one or more continuations and/or divisional applications.

The rejections stated in the Office Action of March 22, 2007 are addressed separately below in the order raised therein.

#### 35 U.S.C. §112, Second Paragraph:

Prior claims 1-20 were rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential steps, and in particular, as being unclear where the “anticipated request” originated and how it related to the “request”. By this paper, Applicants address this rejection by qualifying that the request is a “first request” and the anticipated request is a “anticipated, second request” both from a requester, and wherein the anticipated, second request is at least partially ascertainable from meta data associated with the first request. Based on these amendments, Applicants respectfully submit that claims 8-20 presented herewith particularly point out and distinctly claim the subject matter which Applicants regard as the invention. As such, reconsideration withdrawal the 35 U.S.C. §112, second paragraph, rejection is respectfully requested.

#### 35 U.S.C. §101:

Prior claims 1-20 were also rejected under 35 U.S.C. §101 as being directed as subject matter which could be practiced mentally in conjunction with pen and paper. In particular, the prior claimed steps did not define a machine or computer implemented process. Responsive to this rejection, independent claims 8 & 15 are amended to specify a computer and a computer-implemented process.

Additionally, prior claims 1-20 were rejected under 35 U.S.C. §101 as lacking a useful, concrete and tangible result as being directed to software *per se*. Responsive to this rejection, independent claims 8 & 15 are amended herein to specify that the system and program product include or execute on a computer environment, which is believed to be a useful, concrete and tangible recitation. Additionally, the independent claims further recite that the request manager automatically informs the data object manager of the anticipated, second request to be subsequently received by the data object manager upon receipt of the first request at the request manager, wherein the anticipated, second request is at least partially ascertainable from the meta data associated with the first request received at the request manager. These independent claims further recite that the data object manager prepares for the anticipated, second request *by adjusting utilization of a cache of the storage system of the computer environment* based on the information derived from the meta data associated with the first request. Applicants respectfully submit that this recitation of a computer environment and of adjusting utilization of the cache of the storage subsystem of such an environment is a useful, concrete and tangible result and as such, Applicants request reconsideration and withdrawal of the 35 U.S.C. §101 rejection to claims 8-20 presented herewith.

35 U.S.C. §102(b):

Prior claims 1-20 were rejected under 35 U.S.C. §102(b) as being unpatentable over Gladney et al. (U.S. Patent No. 6,044,373; hereinafter Gladney). This rejection is respectfully, but most strenuously, traversed, to any extent deemed applicable to the amended claims presented herewith, and reconsideration thereof is requested.

By this paper, Applicants recite (e.g., claim 8) a request management system which includes:

- a computer environment with:
  - means for receiving by a request manager of the computer environment a first request from a requester, the first request associated with meta data, the meta data corresponding to data maintained separately from the meta data by a data object manager of a storage subsystem of the computer environment;
  - *means, responsive to receipt of the first request at the request manager, for automatically informing, by the request manager, the data object manager of an anticipated, second request to be*

*subsequently received by the data object manager from the requester to enable the data object manager to prepare for the anticipated, second request, wherein the anticipated, second request to be received by the data object manager is at least partially ascertainable from meta data associated with the first request received by the request manager; and*

- wherein the data object manager prepares for the anticipated, second request by adjusting utilization of a cache of the storage subsystem of the computer environment based on information derived from the meta data associated with the first request by the request manager before the anticipated second request is received by the data object manager from the requester.*

Applicants respectfully submit that at least the above-scripted functionality patentably distinguishes Applicants' invention from the teachings and suggestions of the applied and known art.

Gladney describes an object-oriented access control method and system for military and commercial file systems. In Gladney, access control is provided for existing data elements while requiring only minimal changes to existing software components. In response to a request for access to a protected element, the data manager sends an authorization checking request to a protecting resource. The protecting resource, which is in a distributed arrangement with the protected resource, determines, based on an access control element which can be associated with one or more protected elements, whether the client has permission to be provided the requested access to the protected element. It then sends an access control message (e.g., yes/no) to the data manager based on the determination, and optionally sends explanatory information if access is denied. Access to the protected element is provided or denied based on that message. The protected element can be a file, a data block within a database, an object, method or object-method in an object-oriented system. (See Abstract of Gladney.)

Initially, Applicants respectfully submit that a careful reading of Gladney fails to uncover any teaching or suggestion of a facility for automatically informing a data object manager of an anticipated, second request to be received by the data object manager from a requester responsive to receipt of a first request at a request manager of the computer environment. In Gladney, client process requests are passed through the data manager to the protecting resource manager which determines whether to allow access to a protected resource. Thus, to the extent that the request manager is analogized to the data manager in Gladney, and the protecting

resource manager to the data object manager, there is no functionality described in Gladney where the requester is to send an anticipated, second request to the data object manager (e.g., the protecting resource manager). In Gladney, the protecting resource manager simply determines whether based on an access control element that the client has permission to be provided the requested access to the protected element. This granting of permission facility is simply not relevant to the functionality recited in Applicants' independent claims 8 & 15.

Additionally, Applicants' independent claims recite that the anticipated, second request to be received by the data object manager from the requester is at least partially ascertainable from meta data associated with the first request received by the request manager. By way of example, reference FIG. 1, as well as the examples of FIGS. 4-6 of the present application and the supporting discussion thereof, as to how the meta data associated with the first request is employed in automatically informing the data object manager of an anticipated, second request to be received by the data object manager from the requester. In Gladney, in addition to there being no teaching or suggestion of a requester sending an anticipated, second request to a data object manager (e.g., protecting resource manager), there is no teaching or suggestion therein of a facility for deriving from meta data associated with a first request received by the request manager (e.g., data manager) information on the anticipated, second request to be received by the data object manager. As such, Applicants respectfully submit that the independent claims presented herewith patentably distinguish over Gladney.

Still further, Applicants' independent claims recite that the data object manager prepares for the anticipated, second request by adjusting utilization of a cache of the storage subsystem of the computer environment based on information derived from the meta data associated with the first request by the request manager before the anticipated, second request is received by the data object manager from the requester. This preparing for the anticipated, second request by adjusting utilization of the cache of the storage subsystem is believed to patentably distinguish the independent claims over the applied and known art. In Applicants' invention, there is a preemptive preparing for the anticipated, second request by adjusting utilization of the cache of the storage subsystem. A careful reading of Gladney fails to uncover any teaching or suggestion of the existence of an anticipated, second request to be received at the data object manager from the requester, let alone the preparing by the data object manager for such an anticipated, second

request by *adjusting utilization of a cache of the storage subsystem* of the computer environment. In Applicants' invention, the data object manager manages a storage subsystem and the cache is associated with the data object manager. The various dependent claims have been amended herein to positively recite examples of this adjusting utilization of the cache responsive to the automatically informing by the data object manager by the request manager of the anticipated, second request to be subsequently received by the data object manager.

A careful reading of Gladney fails to uncover any discussion of a cache associated with either the data manager or protecting resource manager described therein. Even if assuming, *arguendo*, that the cache is inherent in such managers, there is no discussion of adjusting utilization of such a cache based upon one or more requests to be received. As such, Applicants respectfully submit that the claims presented patentably distinguish over Gladney, either alone or in combination with the other known art.

For at least the above-noted reasons, Applicants respectfully request reconsideration and allowance of independent claims 8 & 15. The dependent claims are believed allowable for the same reasons as the independent claims, as well as for additional characterizations.


For example, claims 9 & 16 recite that the data object manager prepares for the anticipated, second request by at least one of pre-fetching into the cache data required by the anticipated, second request or moving data from the cache to a disk of the storage subsystem. In Applicants invention, positive steps are taken by the data object manager to prepare for the anticipated, second request before the anticipated, second request is received by the data object manager. No similar preemptive steps are taken with respect to a cache or disk of a storage subsystem in Gladney. As such, Applicants respectfully submit that these claims patentably distinguish over the applied art.

Dependent claims 10 & 17 recite that the data object manager prepares for the anticipated, second request by noting that the data associated with the anticipated, second request is not to be cached by the data object manager. Again, no similar teaching or suggestion is provided by Gladney, or the other art of record.

For at least the above-noted reasons, Applicants respectfully submit that all claims are in condition for allowance, and such action is respectfully requested.

*If a telephone conference would be of assistance in advancing prosecution of the subject application, Applicants' undersigned attorney invites the Examiner to telephone him at the number provided.*

Respectfully submitted,

  
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